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# THE DOCTORAL RESEARCH ABSTRACTS

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**Title :** ONTOLOGY-BASED ISLAMIC BANKING PRODUCT INFORMATION FOR INFORMED DECISION MAKING AND PRODUCT INNOVATION

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The Islamic banks need to remove the grievances on them and gain support of their customers. There were presumptions that the issues were due to the customers' lack of understanding. Hence, there was need to identify the actual root causes of the issues and the factors that had been impeding the customers' understanding. The issue of the grievances could be attended by improving the customers' decision making with the use of information systems. Yet, such systems need to hold the information on the banking products. The information on the Islamic banking products could be modelled in form of a domain ontology. The objectives of this research were to ascertain the real issues of the grievances on the Islamic banks, the effect of lack of understanding of the product on the grievances, and then build a domain ontology on the Islamic banking products which is capable to facilitate customers' informed decision making and innovation of new products. The research was done qualitatively to identify the issue of the customers' grievances by identifying the factors that are causing the grievances and also the factors that have been hindering the understanding. Among the factors that had hindered the customers' understanding was due to the distinct concepts and terminologies,

predominant use of Arabic terms, variation of practices by different banks and also the diverse *Shariah* concepts adopted by products of similar nature. With the use of software engineering approach, the research studied the characteristics of the Islamic banking products to design an ontology on the Islamic banking products. The conceptualised ontology includes knowledge on the prevailing Islamic banking *Shariah* concepts and contracts, the commercial banking processes and others. It also defined the roles played by the bank and its customers respectively according to the different *Shariah* concepts. The ontology was evaluated with the use of competency questions related to the information needed for decision making and interviews were conducted with customers, non-customers and also the bank staff. With such ontology, the customers will be supported to make informed decision making which would satisfy their need and the banks may innovate more new products. These would eventually remove the grievances in the long run.